

Cartooning in the Anthropocene: drawing environmental degradation under capitalism

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Abstract

This study examines how cartoons address the economic determinants of pro-environmental behaviour under capitalism by analysing the interplay between their verbal and visual elements within the framework of the Modular Interdependency Model (MIM). The findings reveal that many cartoons critique the relationship between ecological issues, capitalism, and consumer lifestyles, while some explore the economic determinants of pro-environmental behaviour, such as socio-economic status, gender, and lifestyle, potentially encouraging behavioural change. Moreover, several cartoons propose solutions like degrowth, restrained consumerism, effective communication, and media and corporate responsibility, while addressing barriers such as tokenism and cognitive biases. The study concludes with strategies to enhance the impact of humorous and satirical environmental communication, suggesting that such approaches can effectively engage audiences and inspire meaningful action.

Keywords: environmental humanities, climate change communication, satire, humour, cartoon.

1. Introduction

The pervasive challenges posed by contemporary ecological crises are partly traced back to neoliberal capitalism, characterized by rampant consumerism, relentless extractivism, and ravenous accumulation of wealth. Despite these factors being widely recognized as contributors to environmental degradation, proposed solutions such as degrowth and eco-socialism have struggled to garner widespread consensus for effective mitigation (Zekavat, 2025). A key barrier to progress is said to be the general public's lack of awareness regarding the environmental repercussions of their economic decisions and lifestyles, a gap partly exacerbated by insufficient and skewed communication of these impacts. Politicians and corporations frequently manipulate economic statistics and indicators, engaging in practices like greenwashing to misrepresent the environmental trade-offs of economic ventures.

In this context, humour and satire emerge as potent communicative tools. Unlike fear-based, apocalyptic messages, humour and satire can engage audiences by reducing the risk of eco-anxiety and despair (Boykoff, 2019; Boykoff & Osnes, 2019). These strategies also excel in building communities, setting agendas, and framing issues effectively (Chattoo & Feldman,

2020; Li et al., 2009; Seymour, 2018). Their narrative appeal not only engages a broader audience but also fosters resilience against climate-related adversities (Boyd, 2004; Panda, 2020; Zekavat, 2017). Furthermore, their ability to challenge norms and provide a voice to marginalized groups within hierarchical economic structures underscores their transformative potential (Boykoff, 2019; Rossing, 2013).

This research, therefore, analyses cartoons that highlight the interplay between the contemporary ecological urgencies and capitalism. By examining the cartoons through frameworks developed by Hempelmann and Samson (2008), Roland Barthes (1977), and Zekavat and Scheel (2023), this study aims to examine what determinants of pro-environmental behaviour they draw on. The aim of the article is not to provide detailed case studies but rather to present a broader overview of how contemporary cartoons address the relationship between environmental issues and capitalism. This approach necessitates examining a larger corpus to capture the landscape of these representations. Rather than a microanalysis focusing on how meaning is created in each cartoon, therefore, this paper strives to provide a larger picture to explicate how satiric visual communication can speak to pro-environmental behavioural determinants.

2. Theory, methods, and procedures

Though in no way a universal definition, this study follows Hempelmann and Samson (2008, p. 614) who define cartoon as “a humour-carrying visual/visual-verbal picture, containing at least one incongruity that is playfully resolvable in order to understand their punch line.” Starting with Roland Barthes (1977), many have tried to theorize the relationship between text and image in cartoons. Barthes introduced concepts of anchorage and relay to analyse the interplay between text and image. Anchorage refers to the use of verbal elements to direct or constrain the interpretation of an image, reducing its polysemy, while relay denotes a complementary relationship in which text and image work together to advance meaning or narrative.

Morris (1987, 1993) and Davies (1995) study the semiotics of cartoons, and El Refaie (2003, 2009) and Tzankova and Schiphorst (2012) try to add nuance to the semiotic analyses of cartoons by underscoring their social contexts. More recent semiotic studies resort to critical discourse analysis, multimodality, and metaphor to examine cartoons (Chen et al., 2017). Among others, satire theory has provided a framework for analysing cartoons. Many contend that satire has a moral purpose in that it aims to distinguish between vice and virtue (see Griffin, 1994; Zekavat, 2014); many cartoons assume a similar moral stance when they attack social vices.

For the purpose of this study, I take humour to be “a broad, multifaceted term that represents anything that people say or do that others perceive as funny and tends to make them laugh, as well as the mental processes that go into both creating and perceiving such an amusing stimulus, and also the emotional response of mirth involved in the enjoyment of it” (Martin & Ford, 2018, p. 16). And satire is understood as “the critical impulse manifesting itself in some degree of denigration, almost invariably through attempted humour; the artistic results (usually humorous) of expression of such a critical impulse” (Condren et al., 2008, p. 402).

Rather than dwelling on the aesthetic elements that primarily exert affective impacts on the audience, this research follows an interpretive approach to the study of cartoons by investigating what Hempelmann and Samson (2008, p. 611) call the “content of cartoons.” This involved examining the underlying ideological bearings of these cartoons. “Ideology represents the imaginary relationship of individuals to their real conditions of existence” (Althusser, 1971, n.p.). This relationship is not merely abstract; it reflects the lived experiences of individuals and their interactions with the world around them. Ideology can take on coherent and logical forms,

such as philosophies, yet it is distinct from scientific understanding in that it prioritizes the practical and social dimensions over theoretical knowledge. While these cartoons engage with complex environmental issues, they also reflect and challenge prevailing ideologies, which shape public perceptions of consumerism, extractivism, and environmental justice. By proposing potential solutions, some of these works not only critique existing ideologies but also contribute to the ongoing discourse surrounding the socio-political dimensions of environmental challenges.

To explain their content, the analysis draws on Kress and van Leeuwen's (2006) visual grammar as an analytical framework to examine how images construct meaning. Grounded in systemic functional linguistics, their model conceptualizes visual communication as a structured system of choices. Within this framework, composition refers to the spatial arrangement of visual elements, encompassing key aspects such as information value—where the left is associated with given knowledge, the right with new; the top with the ideal, and the bottom with the real—and salience. The latter denotes the degree to which certain elements attract the viewer's attention, influenced by factors such as size, colour, contrast, placement, sharpness of focus, and culturally specific cues.

Taking a deductive approach, the analysis is further informed by the Modular Interdependency Model (MIM). In an attempt to provide a more comprehensive model for pro-environmental behaviour, MIM (Zekavat & Scheel, 2023) goes beyond mere individual and psychological determinants of behaviour as identified in environmental psychology by relocating individual and collective behaviour within the ecosphere and society (Fig. 1).

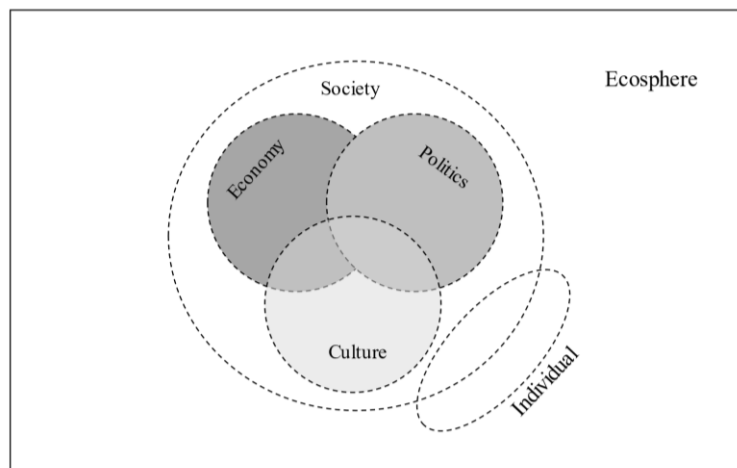


Figure 1. The frame model (modified figure, Zekavat & Scheel, 2023, p. 86)

This model shifts the focus from individual-centric environmental psychology to a broader framework that situates individuals within their cultural, economic, and political contexts, all nested within the larger ecosphere. This approach acknowledges material agency and vibrancy, emphasizing the capacity of more-than-human entities to affect and participate in socio-material networks and the inherent vitality and generative force of matter itself, challenging anthropocentric views of agency (Bennett, 2010; Latour, 2017, 2018). It also emphasizes differentiated responsibility, highlighting that not all individuals contribute equally to the climate crisis nor have the same access to resources for mitigation. By locating individuals within their social contexts, this framework acknowledges heteronomy, or the influence of external factors, and underscores the significant impact of political, organisational, and corporate sectors—often outweighing individual behaviour—in both perpetuating and addressing ecological problems.

MIM acknowledges the myriad determinants of environmental behaviour in their diversity and contingencies. The individual module integrates the determinants of environmental behaviour as collected from six major theories (Fig. 2). This module assumes that values, belief, and norms are major determinants of intention, which subsequently determines behaviour.

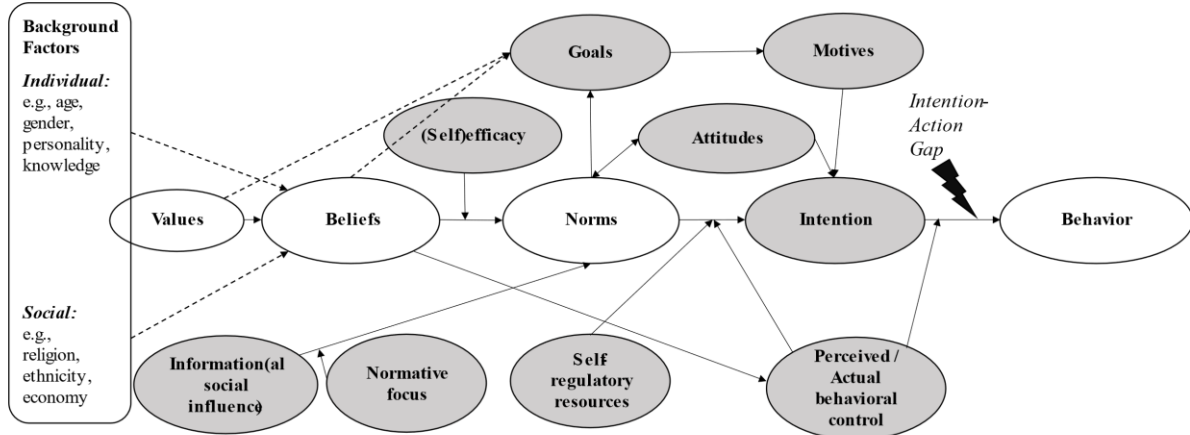


Figure 2. The individual module (modified figure, Zekavat & Scheel, 2023, p. 90)

Alongside psychological determinants, economic situation and socio-economic status are other determinants of environmental behaviour at individual and collective levels (Figs. 3&4).

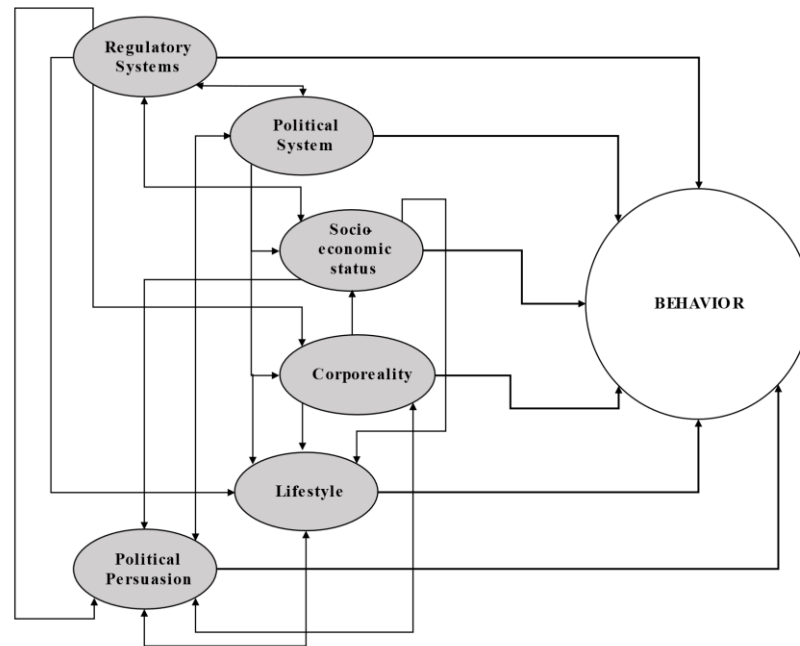


Figure 3. Social—that is, political, economic, and cultural—determinants of environmental behaviour (Zekavat & Scheel, 2023, p. 96)

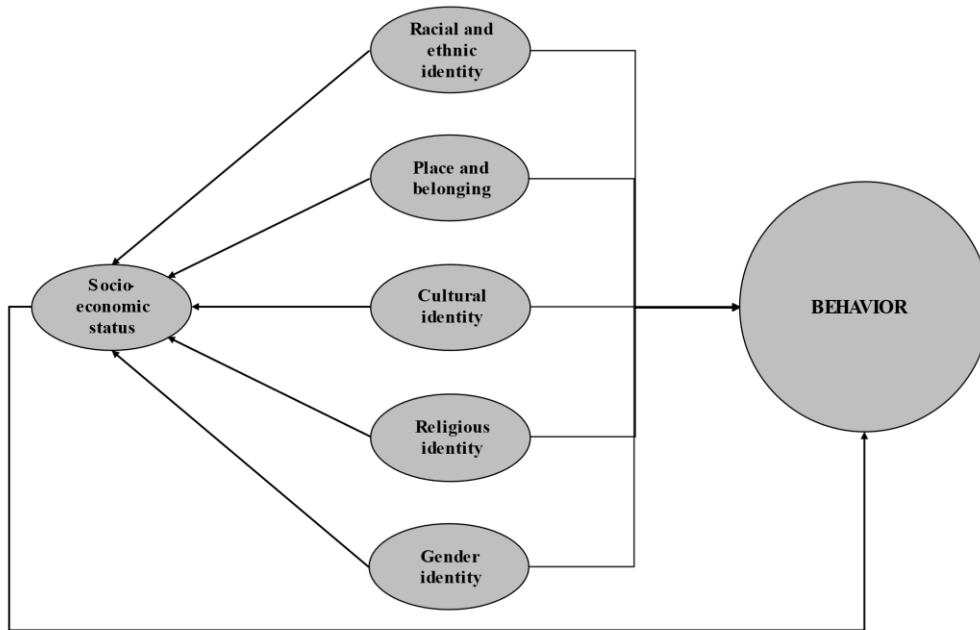


Figure 4. The relationships between socio-economic status, identities, and behaviour (Zekavat & Scheel, 2023, p. 98)

Socio-economic status plays a crucial role in shaping environmental behaviours, as various economic factors often limit individuals' choices regarding sustainable practices. For instance, renewable energy sources, organic produce, and eco-friendly products typically come at a higher price, making them less accessible to those with limited financial resources. This situation highlights that even when individuals are informed about the benefits of environmentally friendly options, they may still opt for less sustainable alternatives due to budget constraints. Conversely, individuals with greater wealth often exhibit a larger carbon footprint through their lifestyles as in activities like space tourism or the ownership of luxury vehicles or personal jets, which are emblematic of excessive consumption. This dynamic underscores that socio-economic status is influenced by a multitude of factors beyond personal effort, including systemic inequalities. In a similar vein, racialised communities may face barriers that limit their access to well-paying jobs or loans, affecting their ability to invest in sustainable practices, such as weatherproofing their homes. Furthermore, for displaced individuals or refugees, immediate survival often takes precedence over long-term sustainability goals. Cultural and social identities also play a significant role; those identifying with countercultural movements may prioritise certain consumption patterns, while religious affiliation can either marginalise individuals or provide community support, influencing their socio-economic status. Gender disparities, reflected in the gender pay gap and unequal access to employment opportunities, further complicate this landscape, demonstrating that socio-economic behaviour and environmental choices are intricately intertwined within a broader societal context.

Considering both the individual and social determinants of environmental behaviour, this paper seeks to analyse the content of a set of cartoons that foreground the relationship between environmental issues and potential economic aspects of environmental behaviour. First, several Boolean search queries were submitted to cartoonstock.com, using “environment,” “nature,” “climate change,” and “capitalism” as keywords. Founded by Bob Mankoff, the former cartoon editor of *The New Yorker* and *Esquire*, the cartoon collection company maintains the database that features a wide range of cartoonists. Some of the cartoons are originally published on the website, while others are collected from other venues.

The CartoonStock website presents a broad selection of cartoons covering topics such as business, education, medicine, law, and everyday life, with content drawn from a variety of mainstream publications. While some cartoons engage with current events and social commentary, the platform does not explicitly promote a political ideology or align itself with partisan perspectives. However, the editorial tone often reflects mainstream Western sensibilities, which may implicitly shape the humour and framing of issues. The commercial nature of the database and its cultural and linguistic limitations (most, if not all, cartoons are in English) could be a source of bias in this study.

The total number of cartoons that were retrieved by using these keywords in search queries was 84. Subsequently, all search results were explored by the researcher to locate and save relevant frames after removing redundancies. Taking a direct approach to content analysis (Hsieh & Shannon, 2005), the inclusion criterion was the simultaneous presence of the themes of economy and nature and/or environment. The resulting set of cartoons was then assessed by an interrater, a female graduate student of World Studies with experience in multimodal analysis and proficient in English, to ensure all items were relevant. During the annotation process, interrater and researcher experienced disagreements regarding the relevance of four cartoons due to differing interpretations, often stemming from ambiguities in the messages conveyed. Through discussions, they incorporated contextual nuances and additional background information to clarify these interpretations, ultimately leading to a consensus on the cartoons' relevance for the analysis. In the end, 33 cartoons were relevant for analysis. Then, all the 33 cartoons were analysed to explain how they depicted and commented on the relationship between the economy and environmental crises.

The 33 cartoons are organised under three subheadings to enhance the flow of the analysis. It is important to note that these are not mutually exclusive categories, as there are inherent overlaps among them. The first section focuses on cartoons that visualise the relationship between the economy and environmental degradation. The second section highlights cartoons that explicitly critique a specific economic system, namely capitalism. The third section delves into cartoons that examine themes of intersectionality in the context of environmental issues. This provisional organisation is designed to provide structure and clarity for the reader without serving as the paper's central argument. Cartoons that speak to the same determinant of environmental behaviour according to MIM are discussed together to highlight similarities and differences in their approaches.

3. Visualising economic impacts

Two cartoons draw on the direct impact of socio-economic status on environmental behaviour by presenting a stark and ominous binary choice regarding the future of the planet, with Ed Fischer's work juxtaposing the imperatives of environmental preservation on the right as new knowledge against the pursuit of financial gain and economic stability on the left as old knowledge. Instead of fostering ambivalence, the cartoon tries to anchor the meaning by prompting the viewer to "pick one," thereby emphasising the critical role of individual decision-making in addressing environmental crises. However, anchoring comes at a cost as it oversimplifies the issue by primarily attributing responsibility to individuals while overlooking the significant influence of sectorial and organisational actors. Although individuals play a crucial role, their capacity to effect change is limited compared to that of corporations and large institutions. By focusing on the smoking exhaust pipe of a car and chimneys of a factory as symbols of extractivism and environmentally degrading activities that bring financial return, the cartoon effectively raises awareness about the environmental impact of personal economic choices and lifestyles. Nonetheless, focusing on individual rather than systemic issues

inadvertently shifts the responsibility and blame disproportionately onto individuals, potentially neglecting the broader systemic changes needed to address ecological challenges comprehensively.

Drawing on economy and cultural identity as determinants, Tjeerd Royaards presents a similar binary choice concerning post-pandemic recovery, yet he adeptly uses culturally specific cues to highlight the institutional and economic forces shaping collective behaviour. In the cartoon, Rich Uncle Pennybags, also known as Mr. Monopoly, symbolises capitalism with “capitalism” emblazoned on his tailcoat. Despite being held on a leash by an anthropomorphised Earth, he drags the planet toward a “quick 'n dirty” recovery, rather than a sustainable one. This imagery critiques the tendency of capitalism to prioritise rapid economic recovery over sustainable development, especially in the aftermath of the economic downturn caused by the pandemic. The cartoon prophetically resonates with real-world events, as seen in the ongoing supply-chain disruptions and the geopolitical tensions following the war in Ukraine, which have further strained the global economy. In response to sanctions, Russia’s reduction of gas supplies to Europe underscores the continent’s dependency on fossil fuels and highlights the missed opportunity to transition to more sustainable energy solutions. Through the use of cultural cues and minimal written text, Royaards effectively underscores the broader systemic challenges that hinder sustainable progress and emphasises the environmental costs of prioritising short-term economic gains.

Matthew Diffie’s cartoon relies on place and belonging as well as gender identity to critique the tendency of the economy to view nature primarily as a resource for financial profit, thereby reducing its intrinsic value. In the scene, a man and a woman who are hiking encounter a breathtaking natural scenery. The man remarks, “This would be a great place to put a huge city.” This comment underscores the human inclination to assume dominion over natural resources, often at the expense of appreciating their intrinsic value. The cartoon not only highlights the nature/culture dichotomy but also incorporates a gender dimension, as the man’s posture and expression suggest he is speaking, thereby reinforcing traditional gender roles. This portrayal indicates that the logic of domination and the prioritisation of nature’s instrumental value parallel patriarchal structures. Some ecofeminists argue that women have a closer connection to nature, while men tend to exert dominance over it (Warren, 2000). More recent scholarship emphasises the entanglement of capitalism with the perpetuation of labour divisions and gendered social roles (Barca, 2020, 2024). This perspective highlights the need to consider how economic systems intersect with gender roles and environmental issues, revealing the intricacies and complexities inherent in power structures. By critiquing the gendered aspect of unchecked economic growth and challenging conventional notions of development, Diffie’s cartoon draws a connection between environmental degradation and patriarchy as a pervasive social, political, cultural, and economic institution, prompting viewers to reflect on the broader implications of these interconnected systems, partly for their sense of belonging to place.

Chris Madden’s cartoon highlights the pervasive corporate mentality of maximising profits at any cost, even capitalising on climate change through greenwashing. In the cartoon, executives refer to climate change as an “ill wind,” acknowledging it as a misfortune with potential benefits. The setting of a “Global Warming Trade Fair: Turning Climate Change into an Investment Opportunity” foregrounds the irony of how addressing climate issues can become a lucrative venture, aligning with capitalist ideals. Madden avoids a more radical comment that would have fully fleshed out the absurdity of drawing on market capitalism to solve the problem it has caused in the first place. Instead, he adopts a pragmatic approach, suggesting that climate action can coexist with capitalism by framing it as an economic opportunity rather than a fundamental challenge to the system. By downplaying the economic system’s role in causing the crisis, the cartoon seems to aim to persuade influential economic stakeholders to embrace sustainability as a profitable venture. This perspective implies that rather than overhauling the

economic system, redirecting resources toward sustainable practices could mitigate the crisis while maintaining profitability, ultimately benefiting both corporations and the environment.

By contrast, Marty Bucella's cartoon seeks to expose the superficial nature of sustainability claims that largely rely on market capitalism. It depicts an executive, comfortably seated at a large desk in an oversized chair, candidly admitting, "I didn't use to *believe* [emphasis added] in global warming, but that was before I discovered how to make a profit off it." Drawing on socio-economic status, this cartoon not only criticises the exploitation of climate change for profit but also targets the misleading perception of climate change as a "belief" by making it salient. Framing climate change as a debatable issue rather than an established fact supported by overwhelming scientific consensus is often exploited in the denialist discourse and is often informed by certain political persuasions. Such framing is misleading and diminishes the urgency and importance of both individual and collective efforts to combat climate change and mitigate its effects. By highlighting this discrepancy, Bucella's cartoon underscores the need for genuine commitment to sustainable practices beyond mere profit-driven motives.

Madden's and Bucella's cartoons employ different strategies in their engagement with capitalism: one seems to attempt to find a way within it, while the other critiques this approach by emphasising that climate change too often resurfaces in debates as yet another opportunity to monetise and capitalise. In other words, these two cartoons address two different implied reader-viewers. The concept of the implied reader-viewer extends the idea of the implied reader from reader-response criticism, which considers reading as a dynamic process characterised by anticipation, frustration, reflection, reconstruction, and ultimately, satisfaction. Iser (1974, 1978) distinguishes between the "implied reader," who is shaped by the text and expected to interact with its "response-inviting structures" in specific ways, and the "actual reader," whose responses are inevitably influenced by their personal experiences and backgrounds. This distinction is helpful for understanding how these cartoons try to appeal to audiences with different political persuasions and/or under different political systems. Madden seems to try to appeal to individuals who have endorsed neoliberal capitalism, while Bucella addresses those who are willing to move on from market capitalism to more effective and sustainable alternatives.

Similar to Bucella's, Fran's cartoon critiques the opportunism of corporations in the face of climate crises. As fear mounts over climate change-induced sea level rise and flooding, Global Investments Inc. views the situation as "a perfect opportunity to invest in properties on higher ground, ... [and] to hike rents up through the roof." Satire operates on three levels: Firstly, it condemns the relentless pursuit of profit by corporations, regardless of the circumstances or consequences. Secondly, it highlights the perverse dynamic in which those responsible for exacerbating the climate crisis continue to profit from it, while the costs are borne by others, particularly vulnerable groups. Among these groups, the younger generation is notably affected, as depicted by their amazed, disappointed, and saddened expressions in the lower frame associated with the real, emphasising the generational disparity in experiencing the impacts of climate change. Lastly, the cartoon underscores the burden placed on future generations, who must deal with the planet's degradation despite having little influence in current decision-making processes. This poignant portrayal serves as a reminder of the long-term repercussions of today's actions and the moral imperative to act responsibly for the sake of future inhabitants of the planet.

Karsten Schley's cartoon offers a pointed critique of corporate tokenism and greenwashing by illustrating how superficial environmental gestures are used to disguise significant ecological harm. In the cartoon, a corpulent man (i.e., size as a recurrent technique to attract the reader-viewer's attention) in a suit, exuding wealth and disregard for true environmental responsibility, remarks, "Okay, I have contributed to the total devastation of the planet because I wanted to make more profit. But I called my 12th 450 HP Luxury Limousine 'Greta.' Doesn't that count?"

This biting satire underscores the absurdity of tokenism, such as naming a luxury car after a prominent environmental activist, as a means of appearing environmentally conscious. Schley uses irony to censure the discrepancy between genuine environmental responsibility and the superficial, often misleading efforts employed by individuals and corporations to appear eco-friendly. The cartoon serves as a reminder of the need for substantive, rather than symbolic, actions in addressing environmental challenges.

Age as an aspect of corporeality emerges as a determinant of environmental behaviour. Tom Toro's cartoon also highlights the disproportionate impact of present-day economic activities on future generations. The scene features three children and an adult, all clad in tattered clothing, gathered around a bonfire amidst a desolate and ruined post-apocalyptic landscape. The adult, incongruously dressed in a suit and tie, delivers a dark parody of a campfire story: "Yes, the planet got destroyed. But for a beautiful moment in time we created a lot of value for shareholders." This stark imagery critiques the myopia and greed inherent in prioritising short-term financial gains over long-term environmental sustainability.

This cartoon also draws on ecospheric determinants by underscoring a fundamental tension: while all species, including humans, require resources for survival and reproduction, greed leads to the unchecked accumulation of resources by one species. This drive for excess, described by Taflinger (1996, n.p.) as "one organism getting a larger piece of the pie, more of the necessary resources, than other organisms," ultimately undermines the critical zone that sustains life for all species. Toro's work serves as a cautionary tale, illustrating how the relentless pursuit of profit, immediate gratification, and incessant accumulation can obscure the broader consequences of environmental degradation, ultimately threatening the survival and well-being of future generations and other species.

This might sound rather simple and straightforward, yet delay of gratification might explain why people tend to disregard this basic principle. Behaviours that offer immediate rewards tend to be more compelling and irresistible, whereas pro-environmental actions typically lack immediate gratification and often require a degree of abstinence (Seymour, 2018). This abstinence contrasts sharply with psychological egoism and the consumer-driven attitudes prevalent in society. Individuals often perceive personal gains as more immediate and tangible compared to the abstract and distant benefits of environmental conservation. This perception helps explain why short-term financial achievements, such as creating shareholder value, are frequently prioritised over long-term ecological sustainability. The allure of immediate rewards can overshadow the critical importance of sustainable practices.

Unhinged greed in collecting resources and a reckless understanding of the relationship between human beings, other species, and their environment, therefore, are among the reasons why we prioritise economic and materialistic prosperity over the long-term viability of diversity and healthy life on the planet. Karsten Schley's cartoon offers a sharp critique of such unchecked greed and reckless attitudes. In the cartoon, a man in formal attire stands at a podium, boldly proclaiming, "Man is the master of this planet, and nature has to adapt to economic concerns!" This statement, steeped in irony, highlights the flawed belief in anthropocentrism, human dominance, and the misguided expectation that nature should conform to economic imperatives.

The cartoon underscores the short-sightedness of such a perspective, reminding us that it is humanity that must adapt to the realities of the natural world, not the other way around. The original purpose of the economy was to manage the distribution of resources necessary for survival and reproduction. However, by prioritising economic growth over ecological sustainability, we risk undermining the very foundations of life. Schley's work serves as a call to re-evaluate our relationship with nature, emphasising the need for a balanced approach that respects and preserves the planet's ecological systems.

The attitude of prioritising short-term economic interests over sustainable resource management ultimately results in the depletion of essential resources, a theme captured in

Trevor White's cartoon featuring Earth marked as "sold to vested interests." Similarly, Karsten Schley's cartoon criticises this short-sightedness by depicting a fictional rubber boot brand celebrating the rise in sea levels. The cartoon depicts the CEO of Rubber Boots Ltd. thrilled to hear his secretary exclaim, "Boss, the glaciers are melting! The sea level is rising!"

While Schley does not attack a particular brand, some cartoons target specific stakeholders more directly. Alexei Talimonov explicitly points to financial institutions as culpable in the climate crisis, illustrating a bank as a voracious vacuum cleaner and a coin purse, consuming the environment with its menacing features. Tjeerd Royaards offers an even more precise critique with a cartoon of a snail in court, its tentacles replaced by smoking chimneys, leaving a trail of oil that drowns animals and people. Its body resembles faeces, and its shell, echoing the colours of Shell Corporation, is filled with bags of money. This imagery powerfully links Petrocultures and capitalism, questioning the feasibility of achieving environmental justice within a capitalist framework. These cartoons increase salience by using textual and visual cues to blame specific culprits like banks or Shell for the purpose of underscoring the need for accountability and systemic change to address the environmental devastation driven by economic interests.

4. Critiquing capitalism

Many cartoons critique capitalism as a driving force that empowers large corporations to instigate, sustain, and profit from environmental degradation. These cartoons are unambiguous in attributing ecological problems to capitalism, often employing anchoring and straightforward symbolism to convey their message. By simplifying the issue and presenting a direct attribution of blame, these cartoons aim to minimise the cognitive effort required for audience comprehension, bypassing the subtleties and complexities typically associated with humour, satire, and irony.

This approach is evident in the use of explicit verbal and visual signs to anchor meaning. For instance, in one cartoon by Alexei Talimonov, capitalism is represented as a combine harvester mowing down flowers, with the word "CAPITALISM" emblazoned on its header in upper-case letters. In another, a giant fish, labelled with "CAPITALISM," devours the Earth. More cartoons depict capitalism as a knife carving into a bleeding planet or a clamp squeezing the Earth. Another image personifies capitalism as a gluttonous figure consuming an ice-cream scoop shaped like the planet. These cartoons employ metaphors that are clearly articulated to specify the targeted aspect of socio-economic status, particularly capitalism. The representations are intentionally presented without ambivalence and nuance, serving the purpose of anchorage and leaving minimal room for interpretation.

This use of anchorage may reflect an effort to render the cartoon simple enough to be almost universally accessible, transcending specific political contexts and appealing to a broad spectrum of ideological perspectives. However, this generalisation comes at a cost: by avoiding audience-specific messaging, the communication potentially risks losing its persuasive power as messages tailored to particular audiences are more effective in conveying urgency and motivating pro-environmental behavioural change.

Besides, while these cartoons might convey their message with clarity and directness, their lack of ambiguity may limit their impact. Research suggests that ambiguity can enhance the effectiveness of humorous environmental communication by encouraging deeper engagement and reflection (Strick & Ford, 2021). Of course, the effective level of ambiguity depends on many factors including the context of dissemination and the target audience. But one might argue that identifying the tenor of these metaphors by labelling them is an unmistakable strategy for reducing ambivalence. The reductive nature of these cartoons, which strips away nuance to

ensure simplicity, has a downside as it might not fully capture the complex interplay of factors contributing to environmental issues.

Talimonov sticks to the same strategy in several other cartoons. In one cartoon, he portrays an elderly man squeezing the planet, not for juice but for money, with “CAPITALISM” emblazoned on his robe. Another cartoon features capitalism personified as a corpulent man in an ornate outfit, tossing a dried bone to a pleading Earth depicted as a green woman. These images hint at broader themes, such as the links between environmental degradation, capitalism, gender, and economic inequality. However, the overt labelling of the figures may deter audiences from delving into the deeper nuances and interconnectedness of these themes, potentially reducing the depth of cognitive engagement with the issues presented.

Betje’s cartoon adopts a similarly straightforward, albeit reductive, approach to critiquing capitalism. The image features a hand gripping a balloon shaped like the Earth, with “Capitalism” inscribed on the sleeve. As three small figures plummet from the balloon and a fourth clings desperately, the cartoon suggests that capitalism, and by extension extractivism, exerts a detrimental human toll. While the cartoon effectively highlights the environmental consequences of capitalism, it overlooks the nuanced impacts of extractivism on other species and the uneven effects of ecological disasters across various communities.

Marian Kamensky’s cartoon focuses on the environmental repercussions of economic activities by emphasising global warming. The illustration draws on the easily recognisable image of the well-dressed, bloated capitalist to unambiguously mark the socio-economic status as a determinant of environmental behaviour. It features a corpulent man dressed in a tuxedo, bow tie, and top hat, leisurely smoking a cigar while seated on a safe. He is depicted skewering the Earth and roasting it over a bonfire. This use of another recurring trope, i.e., metonymy, associating climate change with a barbeque, effectively links the indulgence and avarice of the affluent with the destructive impacts of economic greed. By doing so, the cartoon seeks to establish a clear causal relationship between the unchecked pursuit and accumulation of wealth and the acceleration of climate change, highlighting the detrimental effects of such priorities on the planet’s well-being.

While capitalism and the accumulation of wealth play significant roles in driving climate change, another of Alexei Talimonov’s cartoons highlights additional contributing factors. The image portrays a rotund man slipping on a banana peel labelled with “Global warming,” “Excessive consumption,” and “Global economic crisis.” This symbolism points to the interconnectedness of these issues, emphasising that while consumerism propels the economy, it also exacerbates climate change through excessive production and consumption. The slippery foothold of a banana peel suggests that capitalism has failed to strike a balance between sustaining economic growth and mitigating its environmental impact. By relying heavily on excessive consumption to stimulate markets, capitalism intensifies the challenges posed by climate change, calling into question its ability to harmonise economic vitality with ecological sustainability.

Some cartoons aim to capture the complexities and nuances of ecological issues and their ties to the economy, with a few going further by engaging the audience and promoting behavioural change. Alexei Talimonov’s cartoon effectively uses the imagery of an hourglass with the planet being drained into money, accompanied by the caption “Earth’s time is running out.” This powerful visual metaphor illustrates how the pursuit of material wealth depletes natural resources, highlighting the unsustainable nature of unchecked economic growth. By clarifying the origins of wealth and its environmental costs, the cartoon serves as a stark warning that such practices cannot persist indefinitely. It underscores the urgent need for a paradigm shift by revealing the link between monetary wealth and the climate crisis, compelling the audience to recognise the immediacy of the issue and take action.

Similarly, Bradford Veley's cartoon highlights how legitimate environmental concerns are often overshadowed in discussions about the economy's impact on the planet. The background reveals a world hollowed out by extractivism, while a pseudo-conversation unfolds between late-stage capitalism and the biosphere as two characters. Capitalism proudly cites low unemployment and rising stock markets, yet the biosphere remains voiceless, unable to articulate the true costs of these economic achievements. This ironic setup transforms the supposed dialogue into a one-sided monologue, where only the economic narrative is heard, thus undermining its meaningfulness. The cartoon poignantly reveals how positive economic indicators and reports tend to obscure the real environmental costs of prosperity for different species and communities. By focusing on the disparity between economic success and ecological degradation, the cartoon aims to inform its audience and encourage them to reconsider the broader implications of economic growth, ultimately advocating for behavioural change.

Michel Cambon's cartoon highlights the disparity between those who benefit from wealth accumulation and those who bear its costs. The image features a sad and angry girl clutching a balloon shaped like the planet, while a middle-aged man gleefully edges his lit cigar toward it. This stark contrast illustrates how middle-aged white men often reap the rewards of an extractivist economy, while future generations, symbolised by the girl, are left to endure its detrimental consequences. The cartoon subtly comments on the role of gender and age as factors influencing environmental behaviour, using a stark colour contrast in its composition to emphasise the economic system's varied impacts across different generations and gender identities. Cambon's work serves as a visual reminder of the unequal distribution of environmental burdens, urging viewers to consider the long-term implications of current economic practices and differentiated responsibility.

5. Exploring intersections and solutions

A number of cartoons venture beyond merely highlighting issues and analysing the economic factors influencing pro-environmental behaviour by proposing potential solutions. When considering that capitalism may contribute to ecological problems, one might initially think of systemic change as a remedy. However, the idea of seeking alternatives to capitalism is not widely embraced, as illustrated in Neil Bennett's cartoon, "Rebellion Extinction." In this cartoon, a figure clad in a militant outfit and carrying a "smash capitalism" placard arrives at an Extinction Rebellion demonstration, only to discover it deserted. The capitalism smasher figure being left alone indicates that even progressive movements may not be fully prepared for radical changes that involve creating an alternative economic system. Radical demands are not only unlikely to find favour within mainstream environmental movements, but may also prove counterproductive by alienating activists who endorse such approaches. Through a clever play on the movement's name, Bennett implies that aggressively targeting capitalism could lead to the extinction of fledgling rebellions, suggesting that an anti-capitalist agenda might inadvertently stifle environmental activism. The cartoon, therefore, can imply that the push for sustainability often remains superficial, avoiding disruption of the current system, which is fundamentally at odds with sustainable practices. Consequently, even ostensibly progressive initiatives may struggle to adopt more radical approaches necessary for meaningful behavioural change.

While Neil Bennett seems to suggest that dismantling capitalism may be neither popular nor feasible, other cartoonists explore alternative solutions such as degrowth, restrained consumerism, effective communication, and corporate responsibility. They also address barriers to pro-environmental behaviour, such as tokenism and cognitive biases. Karsten Schley's

cartoon depicts a ruthless group of CEOs attacking a fellow executive labelled a heretic. They pelt him with eggs and tomatoes because he “does not believe that growth is endless.” The cartoon’s caption refers to the CEOs as a “tribe,” implying that scepticism about perpetual growth is taboo within the corporate world. This imagery suggests that questioning the value and feasibility of infinite economic growth leads to social ostracism among business leaders. By highlighting this intolerance for alternative perspectives, Schley’s cartoon critiques the entrenched mindset that prioritises relentless growth, urging a reconsideration of values to accommodate sustainable practices. The cartoon seems to promote degrowth as a potential solution for addressing climate change.

Mike Flanagan intensifies his critique of unbridled growth by drawing a stark and unsettling parallel in his cartoon. It shows a man and a woman conversing in the reception area of the “Global Growth Conference,” accompanied by the caption, “Growth for the sake of growth. That’s exactly how a cancer cell works.” This comparison highlights the inherent flaw in capitalism’s relentless pursuit of growth, which is not driven by goals of collective welfare, security, peace, or equity. Instead, growth serves as the core justification and driving force behind capitalism, making the denial of growth seem paradoxical.

Capitalism’s emphasis on profit and the creation of material wealth hinges on continuous growth, which is largely fuelled by consumerism. This relentless production and consumption cycle leads to the depletion of natural resources and contributes to environmental degradation. Flanagan’s metastasis metaphor underscores the destructive nature of unchecked growth, urging a re-evaluation of economic priorities to align with sustainable practices that preserve resources and protect the environment.

Disparaging unbridled consumerism can be one of the ways through which cartoons can promote a change in attitude, and consequently behaviour. Chris Madden’s cartoon exemplifies this approach with a compelling visual metaphor: two individuals are seen in the basket of a hot air balloon, frantically discarding material possessions to regain balance. The balloon, representing planet Earth, is on the verge of crashing. Accompanied by the caption, “We’re sinking under the weight of our consumer lifestyle! Either it goes or we go,” the cartoon conveys a sense of urgency and presents a stark, uncompromising choice. Instead of systemic solutions like degrowth, however, the cartoon seems to appeal to individuals to reconsider their consumerist lifestyles.

Madden’s work challenges the notion that the planet can be saved without a fundamental shift in our consumption habits. By highlighting the environmental consequences of economic activities, the cartoon emphasises the crucial role lifestyle choices play in determining pro-environmental behaviour. It serves as a call to action, urging individuals to critically evaluate and alter their consumption patterns to help avert ecological disaster.

Likewise, Tjeerd Royaards’ cartoon critiques the superficial comfort offered by the concept of sustainable consumption under green capitalism. It depicts a rotund, middle-aged, bald, white man voraciously draining the planet’s resources through a straw—a paper one, signifying a nod to sustainability. This portrayal highlights the hypocrisy and inefficacy of token gestures and single-action bias. While paper straws may be more eco-friendly than plastic, the cartoon suggests that true sustainability would involve avoiding straws altogether. The man’s greed, as he depletes the planet’s resources, underscores the futility of minor adjustments within a fundamentally flawed system. Royaards employs both size and colour to attract the reader-viewer’s attention and convey that the problem does not lie in the manner of consumption, but in consumerism itself, which requires a fundamental transformation. The cartoon calls for a re-evaluation of consumption habits and a shift away from superficial fixes, advocating for more profound changes to achieve true sustainability.

Corporations and the media are major forces behind perpetuating unbridled consumerism. Aaron Bacall’s cartoon critiques the symbiotic relationship between corporations and the media

in promoting unchecked consumerism. It features a TV anchor announcing, “The following program is brought to you by a destroyer of the rainforest, who wishes to remain anonymous.” This satirical statement underscores how economic interests shape the actions of manufacturers and media corporations, casting them as enablers and apologists for unsustainable practices. Similarly, KES highlights the corporate prioritisation of profits over environmental responsibility. In a cartoon depicting a meeting about renewable energy, an executive remarks, “Well sure, I’d like to save the planet too. But at what cost to the company?” This anchored message exposes the tension between environmental intentions and economic priorities.

These cartoons illuminate some of the psychological barriers to realising pro-environmental intentions, particularly cognitive dissonance. This phenomenon, as described by Festinger (1962), involves creating psychological consistency between conflicting pieces of information or beliefs. In the context of extractive capitalism, acknowledging the scientific reality of the climate crisis while maintaining corporate profitability creates a cognitive dissonance. To alleviate this dissonance, decision-makers may selectively seek information that downplays their company’s environmental impact, thereby altering their attitudes rather than their behaviours. This illustrates how cognitive biases can impede meaningful environmental action, emphasising the need for a shift in both mindset and practice to address ecological challenges effectively.

Another factor contributing to the gap between environmental intentions and actions is the perceived risk associated with behavioural change, particularly financial risks. People may fear that the costs of adopting pro-environmental practices could outweigh the benefits. Furthermore, conflicting goals and aspirations present more challenges; for instance, one entity bears the costs, e.g., the landlord paying for weatherproofing a flat, while another enjoys the benefits, e.g., the tenant paying lower energy bills. In this cartoon, while the company pays the costs, the world will enjoy the benefits.

In foregrounding executive remarks on renewable energy, KES underscores the mechanisms that lead businesses to prioritise short-term economic gains over the planet’s long-term sustainability. By shedding light on these dynamics, KES aims to raise awareness among audiences about the underlying motives influencing their environmental decisions and actions. Such awareness can empower individuals and organisations to make more informed and balanced choices that align economic success with ecological responsibility.

6. Discussion and conclusion

This study set out to explore how cartoons can address the socio-economic determinants of pro-environmental behaviour. By analysing the interplay between verbal and visual elements within a set of cartoons, employing analytical insights from Barthes, Kress and van Leeuwen, the research highlighted how these cartoons depict and critique the relationship between ecological issues and capitalism within consumer society. Informed by the determinants of environmental behaviour as laid out in Modular Interdependency Model (MIM), the analysis focused on the socio-economic status as a direct determinant and the indirect impact of imbricating determinants such as place and belonging, cultural identity, gender identity, and lifestyle.

The findings show that some cartoons concentrate on illustrating the detrimental effects of unbridled economic growth and accumulation, while others explore the links between economy and other factors influencing pro-environmental behaviour, such as gender and lifestyle. Furthermore, certain cartoons seem to strive to encourage behavioural change among readers-viewers or offer solutions, advocating for concepts like degrowth, restrained consumerism, effective communication, and media and corporate responsibility. They also address and seek

to overcome barriers to pro-environmental behaviour, such as tokenism and cognitive bias, illustrating a proactive approach to fostering environmental consciousness and action.

In foregrounding such nuances, environmental messaging through cartoons can adopt an alternative strategy to the usual fear-driven framing of environmental communication that risk causing eco-anxiety and indifference in reader-viewers (Boykoff, 2019; Sachs, 2023; Zekavat, 2025; Zekavat & Scheel, 2023). Cartoons use satire, irony, and humour in hopes of informing and motivating their reader-viewers to take meaningful actions like modifying their lifestyles and consumer behaviours or reimagining and challenging socio-economic structures. Previous research has shown that “Emotional appeals to the dangers of climate change impact can numb audiences” (Holmes & Hall, 2019, p. 15; see also Ettinger et al., 2021). This is partly because people “have a limited capacity for worrying about issues. Scholars refer to this limited capacity as a *finite pool of worry*” (Shome & Marx, 2009, p. 21). Apocalyptic and sombre messages, therefore, could make it more difficult to retain the attention and interest of the audience and might eventually lead to emotional numbing. By contrast, satiric and humorous communication can draw attention to the message and raise awareness (Bore & Reid, 2014; Chattoo & Feldman, 2020; Eisend, 2009; Lyytimäki, 2022; Strick, 2021) and tends to be more memorable (Chattoo & Feldman, 2020; Martin & Ford, 2018; Strick & Ford, 2021). Besides, people tend to disseminate satiric and humorous multimodal communication more frequently and widely (Campo et al., 2013; Carroll, 2014; Chattoo & Feldman, 2020; Market Wired, 2011; Pariera, 2017; also see Zekavat & Scheel, 2023). Humorous and satiric communication of environmental messages, thus, can extend the outreach and retention of the message.

A key finding was that cartoons display varying levels of ambiguity. Most cartoons that tried to depict and critique the environmental impacts of the capitalist economic system seem to eschew ambiguity. They employ anchorage to minimise ambiguity which can decrease the risk of misunderstanding the message. The tendency for simple unambiguous messages suggests that cartoonists try to put less demand on their implied viewers. Unambiguous messages, however, are not always the most effective strategy to incite behavioural change. Humour seems to reduce motivation to scrutinise message arguments (Boukes et al., 2015; LaMarre et al., 2014; Lee, 2013; Young, 2008, 2020). It relieves anxiety and enhances positive mood, which, in turn, can reduce message scrutiny due to the fear of spoiling the good mood (Strick, 2021). Moreover, people tend to engage in heuristic rather than systematic and effortful processing when they are in a good mood (Martin & Ford, 2018). Humour can also reduce processing depth when it elicits positive mood (Strick, 2021) and anticipation of positive affect on the part of the recipient decreases scrutiny of the argument (Young, 2008, 2020; see Chattoo & Feldman, 2020 for a different perspective). Therefore, inciting negative emotions is a potential mitigating measure to which some of these cartoons resort (Strick, 2021; see also Droog, Burgers, & Mann, 2022; Panda, 2020). Accordingly, the less light-hearted forms of humour and satire that elicit uncomfortable emotions can mitigate this drawback.

Ambivalence can also be another effective strategy in mitigating the potential negative impacts of humorous messaging. According to appraisal theory, the components of emotions impact processing. So besides being positive or negative, they can be categorised according to the level of confidence they elicit. Anger and happiness, for instance, are accompanied by a sense of certainty, while shame and hope elicit uncertainty (Strick, 2021). It is the level of confidence an emotion elicits that influences the depth of processing.

The use of humour, and particularly satire and irony can stimulate strong ambivalent or mixed emotions that could potentially mitigate the adverse impact of positive emotions on persuasion (Skurka et al., 2018; Skurka et al., 2019; Strick, 2021; see also Norgaard, 2011; Panda, 2020; Seymour, 2018). One explanation for this is that people mobilise cognitive resources to reduce ambivalence; as a result, new information is thoroughly processed. Among others, ambivalence is associated with higher elaboration and systematic reasoning and can lead

to strong attitudes that predict behavioural change (Strick, 2021). Humour, satire, and irony, therefore, should be used either alongside or in order to elicit uncertainty emotions like shame, and concern in order to mitigate the effects of positive emotions on persuasion.

The cartoons I analysed used negative emotions and emotions with a high level of certainty, but hardly created cognitive ambiguities. This comes at a cost. Being simple and unambiguous sometimes means being reductive in that many of these cartoons blame one reason but fail to acknowledge and explore the multiplicity and complexity of ecological problems and their intersections with social and historical issues. For instance, they often fall short of depicting the determinants of pro-environmental behaviour that imbricate economic status including the political system, political persuasion, ability, and regulatory systems. Likewise, they fail to comment on the intersections of the economic determinants of pro-environmental behaviour with pertinent socio-historical issues like racism, labour, and colonial relations. This simplification might be an attempt on the part of the cartoonists to make their work ‘universal’ in speaking across different political systems and histories or to different individuals with various political persuasions. This, however, means that instead of tailoring their message to a specific audience, they address a general one. Yet, only tailored messages can exert optimal impact in persuading the audience about the urgency of the situation and encouraging them to adopt pro-environmental behaviours.

Thus, although humour, satire, and irony could be alternatives or complements to fear-inducing environmental messages, their visceral and cognitive impacts complicate the picture. Moreover, attempts toward behavioural change do not imply that cartoonists entertain unrealistic expectations about the potentials of their social interventions. Although aspiring, they also suggest that some solutions like finding more radical alternatives to the dominant socio-economic system might not be publicly endorsed. Though touting the idea, they seem to be aware that these alternatives are unlikely to gain momentum and can even backfire in alienating activists.

The findings of this study cannot be generalised as the number of cartoons it analysed was rather limited because they were retrieved from just one platform, i.e., cartoonstock.com. Future studies are needed to investigate cartoons across different languages and cultures to better understand how they can explain the relationship between the economy and ecological challenges and how they try to encourage their audiences to address and redress this relationship. Empirical evidence provided through quantitative research can consolidate the findings.

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